4th ESPT SUMMER SCHOOL
SUPPORTED BY SPHN

PRECISION MEDICINE AND PERSONALISED HEALTH

September 24-27, 2018
Geneva, Switzerland
Dear Colleagues and Friends,

It is a great pleasure and honour to invite you to the 4th ESPT Summer School that will be held for the first time in Geneva, Switzerland, from September 24th to September 27th 2018. Following the success of the previous 3 ESPT Summer Schools in Belgrade (2016), Ljubljiana (2012) and Rome (2014), the Education and Courses Division of ESPT has designed a comprehensive educational program in the multidisciplinary field of pharmacogenomics and personalised therapy together with the Swiss Personalised Health Network (SPHN).

This program includes both the fundamentals of pharmacogenomics as well as the latest knowledge on established and novel concepts in the field of precision medicine, as well its advanced clinical applications in personalised health. The title this year for the summer school will be: Precision Medicine and Personalised Health

Participants in the school will include:

- physicians, pharmacists, and other clinical and biomedical scientists at all stages of their career that want to learn about this evolving clinical and research field,
- graduate and postgraduate students interested in pharmacogenomics and related fields,
- regulators, government employees, insurance scientists, bioinformaticians, bioethicists and other professionals

The summer school will consist of lectures, held by distinguished international faculty that will cover key topics in novel concepts and clinical applications in precision medicine. Sessions will be interactive and workshops with the participants will be organised.

It is arranged as an intensive teaching and learning event that will raise the education levels in pharmacogenomics and personalised therapy several steps higher. Innovative and original programming will enable to present, share, debate and conclude on the opportunity to translate genetic laboratory test results into actionable prescribing decisions, emphasising the importance of teamwork in the use of personalised medicine for improving patient care in the clinical setting.

We hope that the 4th ESPT Summer School will meet your expectations, provide you some unforgettable personal and professional memories, and trust that you will enjoy your visit to the very beautiful and cosmopolitan city of Geneva.

We look forward to welcoming you in Geneva.

Sincerely yours,

Prof. Marc Ansari
ESPT board member / Chair Summerschool
Head of Onco-Hematology Pediatric, Geneva University Hospital

Prof. Peter Meier-Abt / Co-Chair Summerschool
Chair of the SPHN National Steering Board

Prof. Ron van Schaik / ESPT President
Head IFCC Expert-center Pharmacogenetics, Erasmus MC Rotterdam
Monday, September 24, 2018

09:00-09:15  Welcome - M. Ansari  
             SPHN - P. Meier-Abt

09:15-10:30  Introductory lecture: Concepts & Definitions of Precision Medicine and Personalised Health  
             U.A. Meyer  
             Pharmacogenomics: incl. Consequences on PK/PD

10:30-10:45  Coffee break

10:45-12:00  "Omics" Overview I  
             Genomics: Medicine & Health - S. Antonarakis  
             Epigenomics: Medicine & Health - I. Cascorbi  
             Transcriptomics - M. Dermitzakis

12:00-13:30  Lunch

13:30-14:15  "Omics" Overview II The Integrome  
             Proteomics - R. Aebersold  
             Metabolomics - M. Simmaco

14:15-15:30  Coffee break

15:30-16:45  Microbiome - J. Schrenzel  
             Nutrigenomics - TBC

Welcome drink at Campus Biotech

Tuesday, September 25, 2018

Clinical Phenotype  
C. Lovis / A. Geissbuehler

09:00-09:45  What is the phenotype, the landscape
09:45-10:30  Challenge of data representation / data interpretation /data interoperability

10:30-10:45  Coffee break

10:45-11:30  Prediction of metabolic phenotype from genotype - A. Llerena Ruiz

Clinical examples

11:30-11:50  Radiology image processing in new precision medicine - new technologies (radio-omics)  
             X. Montet
11:50-12:10  Pathology - TBC
12:10-12:30  Pharmaco-phenotype - C. Samer
12:30-14:00  Lunch

14:00-14:45  **Biomarkers: discovery & applications**  -  D. Hochstrasser

14:45-16:15  **Clinical Bioinformatics**  
Clinical perspective of bioinformatics -  O. Delaneau  
Clinical Bioinformatics Pipelines -  V. Barbié  
Clinical perspective - TBC

16:15-16:30  Coffee break

16:30-17:00  Artificial Intelligence (ETH) - TBC

► Wednesday, September 26, 2018

**Statistics / Experimental design**
Associations: correlation -> causality - 2 takes on what constitutes evidence

09:00-09:45  Digital Epidemiology and big data -  M. Salathé
09:45-10:30  Evidence in personalised medicine - TBC

10:30-10:45  Coffee break

10:45-11:30  Example: what you can do with statistics on same dataset - TBC
11:30-12:15  Experimental design including Metabolomics - Preanalytics - U. Amstutz

12:15-13:45  Lunch

13:45-17:45  **Group work**
Personised aging: How to personalise osteoporosis prevention, diagnostics and treatment -  J. Marc
Connecting genes and diseases – from gene to diseases and back. (Computer aided seminar) -  C. Sipeky
How to implement pharmacogenetic testing into clinical practice - The cases of Dpyd and UGT1A1 -  M. Pazzagli
Pre-emptive Pharmacogenomic testing: Case study of a workflow from sample to result -  P. Jacobs
In silico analyses of DNA-protein, DNA-drug and DNA-DNA interactions - an approach to aid experimental design -  C. R. Uppugunduri Satyanarayana
PGx-phenotype association: Antiplatelets Therapy in acute coronary syndrome -  S. Stanković
Good practices of gene testing in personalised medicine of breast cancer patients -  M. Miozzo
Personalised medicine in diagnostics and monitoring of leukemia -  H. Podgornik

16:30-16:45  Coffee break

Student work prepare presentation

School Party at Golf Club de Genève
Thursday, September 27, 2018

**Biobanking**

09:00-10:00 Potential and challenges of Biobanks - V. Mooser

10:00-10:15 Coffee break

10:15-11:00 Ethical implications related to Biobanking & big data - E. Vayena
11:00-11:45 Health economics of Personalised Health - T. Szucs

11:45-13:30 Lunch

**Pharmacogenomics**

13:30-14:30 Cardiovascular Pharmacogenomics - V. Manolopoulos

**Presentations of Group work** - J. Marc

14:30-16:30 Topics continued from Day 3

16:30-17:00 Coffee break

17:00-18:00 Closing unifying lecture - M.A. Rubin

Friday, September 28, 2018

FEAM conference on Precision Medicine and Personalised Health 2018